MATERNAL MORTALITY IN LOS ANGELES COUNTY 1994-1996

COUNTY OF LOS ANGELES - DEPARTMENT OF HEALTH SERVICES
FAMILY HEALTH PROGRAMS

FETAL-INFANT MORTALITY REVIEW PROJECT

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The national effort to examine infant mortality was spearheaded by Ezra Davidson, MD, as President of the American College of Obstetricians and Gynecologists (ACOG). Dr. Davidson also acts as co-chair of our FIMR Community Advisory Group with Dr. Irwin A. Silberman, Director of Family Health Programs for Los Angeles County Department of Health Services.

Other California FIMR projects were of great assistance in the start-up phase. Because Los Angeles was the last of the initial projects to begin, we benefited from the lessons learned by the pioneers. California DHS MCH Branch staff have worked closely with us, including Ed Graham, Thelma Ellison, Nancy Barrera, Gilberto Chavez, Anna Lopez and Elizabeth Adams.

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Data abstraction and writing case summaries was done by the FIMR Project public health nurses. Josué Barbosa did the early maternal death reviews. Most of the maternal death information was gathered and presented by Grant Neie. He was very involved in data entry and analysis using Epi Info. He also did tremendous work on the analysis and graphics for this report.

Special thanks to the members of the Technical Review Panel (Appendix 1), who have met every month since December 1993, first to review fetal and infant deaths, and for the last two years, to review the very complex and emotionally difficult cases of maternal deaths. Lisa Bollman, Delores Alleyne, Kitty Podolsky, James Ribe, Mark Strassburg, and Jim McGuire gave generously of their time to edit this report.

The Community Advisory Group members (Appendix 2) have guided the FIMR process and disseminated panel findings.

EXECUTIVE SUMMARY

Since 1992, the California Department of Health Services, Maternal Child Health Branch has provided the County of Los Angeles Department of Health Services with a Federal Title V block grant to fund a Fetal-Infant Mortality Review (FIMR) Project. During 1996-98, a Maternal Mortality Review was requested by the State to be performed under the auspices of this project.

All identified pregnancy-related maternal deaths of Los Angeles County residents that occurred during 1994-96 were reviewed, a total of 63 cases. The purpose of the review was to identify the causes and contributing factors and to find ways to reduce the number of preventable deaths.

During this century, improvements in public health and medical care have made a significant impact on maternal deaths. For example, in 1915, maternal mortality in Los Angeles County was 710 deaths per 100,000 live births, compared to 7.1 maternal deaths per 100,000 live births during 1996 - - a vast improvement.

Table A
Maternal Mortality Rates, Los Angeles County, California, & U.S. (1994-96)
Maternal Deaths per 100,000 Live Births

	1994	1995	1996
Los Angeles County	13.9	14.9	7.1
California	9.7	8.5	5.6
United States	8.3	7.1	7.6

Table A demonstrates that, although the County maternal mortality rate fell to 7.1 per 100,000 live births in 1996, its rate was still higher than State rate. The County's maternal mortality rate was also higher than the National Year 2000 Objective, which is to reduce maternal deaths in the United States to 3.3 maternal deaths per 100,000 by the year 2000.

The FIMR Public Health Nurse wrote case summaries of abstracted data from death and birth certificates, medical records and coroner's reports removing patient, facility, or provider identifiers. From their review of those case summaries, the FIMR Technical Review Panel, a multi-disciplinary group of health professionals, determined the cause of death, contributing factors, and whether each death was preventable. Based on these data, the panel then developed recommendations designed to reduce the incidence of maternal mortality.

The risks and causes of maternal mortality in this review were similar to other previously reported studies. The three main causes of pregnancy related deaths were hemorrhage, embolism and hypertension. The maternal mortality ratios in our review were higher for:

- women over 30 years of age;
- African Americans;
- women with little or no prenatal care; and
- women with higher numbers of previous live births.

Three-quarters of the deaths had some chance of being prevented. The most commonly cited contributing factors were:

- patients delaying or not seeking prenatal or emergency care;
- health care professionals not recognizing and not properly managing risks;
- diabetes mellitus;
- systemic lupus erythematosus (SLE);
- renal disease;
- hypertension & pre-eclampsia;
- molar pregnancies;
- disseminated intravascular coagulopathies (DIC);
- heart disease;
- failure to consult with perinatologists or other specialists; and
- failure to refer patients to facilities equipped and staffed to handle high-risk pregnancies.

The recommendations of the review panel on how to decrease maternal mortality address many types of contributing factors and deal with all stages of pregnancy from improved women's health care and preconceptional counseling to postpartum education and follow-up. The panel recommended:

- increased services in the areas of family planning, prenatal care, and social services for homeless women;
- specialized prenatal care for substance abusers;
- increased outreach to high-risk women to encourage early and continuous prenatal care;
- case management for high-risk pregnancies;
- improved provider communication;
- improved quality assurance of medical and vital records;
- patient education on danger signs during pregnancy;
- better risk assessment and appropriate level of patient care;
- provider training on management of high-risk conditions of pregnancy and management of obstetric emergencies; and
- formal, multi-disciplinary review of all maternal deaths.

Maternal mortality has decreased greatly in this century; it is a rare occurrence that relatively few obstetricians experience. When it occurs, however, it is a devastating experience for all who are involved. We hope that wide dissemination of this report to health professionals and community-based organizations concerned with improving the outcomes of pregnancy will raise the level of awareness about these potentially improvable factors and contribute to reducing preventable maternal mortality to the lowest possible levels.